

Research on the establishment and implementation of a comprehensive safety habit cultivation system for all employees in the rubber and plastics industry

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Abstract: Safety habits are the core support of safety production management in the rubber and plastics industry, especially in the tire production field, which is equipment-intensive and has complex operational scenarios. The cultivation level of safety habits directly affects the safety and high-quality development of enterprise production. In modern enterprise management, safety has evolved from being constrained by systems to becoming a cultural gene. The cultivation of universal safety habits is a key path for upgrading safety management from passive compliance to active internalization. Based on the production characteristics and safety management practices of the rubber and plastics industry, combined with relevant theories, this paper defines the connotation of universal safety habits (the organic integration of safety knowledge, skills, and willingness), divides the three progressive levels of behavior automation, cognitive anticipation, and value consensus, and clarifies the cultivation goals of "I want to be safe, I will be safe, and I can be safe". On this basis, four core cultivation paths are proposed: proactive action, pre-event prevention, standard actions, and closed-loop management. The implementation points are refined based on the practical scenarios of tire manufacturing enterprises, providing theoretical reference and practical guidance for enterprises in the rubber and plastics industry to build a long-term safety management mechanism, strengthen the safety production defense line throughout the entire process, and achieve common safety development for both enterprises and employees.

Key words: rubber and plastics industry; tire production; universal safety habits; habit cultivation; closed-loop management

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0 Introduction

In his work "On Habits," the British thinker Francis Bacon pointed out: "Habit is indeed a stubborn and formidable force that can dominate one's life." The American educator John Mann also stated: "Habit is like a rope; if we add a new strand to it every day, it will become unbreakable in no time." From the perspective of behavioral science, habit is an automated behavioral pattern triggered by situational cues, requiring little conscious effort from the individual. When safety becomes a habit, individuals will make decisions and behaviors that conform to safety norms unconsciously, exhibiting spontaneity and stability akin to instinctive

behaviors such as eating and walking. This automated safe behavior is an advanced manifestation of safety management level and serves as a core approach to dealing with complex work environments, avoiding unexpected risks, and ensuring safe production.

Through in-depth analysis of various safety production accidents, it can be seen that human factors account for a

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significantly high proportion of accident causes. Such "human error" is not always due to a lack of safety knowledge or insufficient operational skills; it is more often attributed to negligence, a sense of luck, and subjective violations of safety procedures. In on-site work scenarios in enterprises, there is a widespread phenomenon of "compliance when supervisors are present, and misconduct when supervisors are absent." This phenomenon profoundly reveals that passive compliance-based safety management is significantly vulnerable and cannot achieve risk coverage across all time and space, as well as all scenarios. To achieve all-weather and all-scenario safety production, it is necessary to promote the upgrading of safety management from "external requirements" to "internal habits of all employees".

1 Connotation and theoretical analysis of universal safety habits

1.1 Definition of universal safety habits

The "Encyclopedia of China" defines safety habits as "a kind of behavioral pattern that individuals develop over time with the aim of enhancing safety and preventing accidents." Essentially, safety habits refer to the process where individuals or organizations, through repeated reinforcement training in long-term safe production practices, internalize safety knowledge, operational skills, and safety norms into instinctive, stable, and automated behavioral patterns and thinking tendencies.

American management guru Stephen Covey proposed in "The 7 Habits of Highly Effective People" that habits are an organic fusion of knowledge, skills, and willingness - knowledge defines "what to do" and "why to do", skills clarify "how to do", and willingness drives "want to do". All three are indispensable. This theory also applies to the definition of safety habits. Taking wearing a safety helmet when riding an electric bicycle as an example: the public generally has the knowledge that "helmets can protect life safety" and also master the correct wearing skills, but without a strong willingness for safety, they often ignore the wearing requirements due to a sense of luck; only when facing regulatory inspection or sudden accidents, their willingness for safety will significantly increase. Based on this, it can be further clarified that safety habits are the product of a deep

interweaving of safety knowledge, safety skills, and safety willingness. And universal safety habits are a further upgrade based on individual behavior patterns, representing safety behavior norms and thinking consensus that are universally recognized and followed at the organizational level.

1.2 Level of improvement of safety habits for all employees

Based on enterprise production practices, the enhancement of safety habits among all employees can be divided into three progressive levels, which are interrelated and gradually deepened.

1.2.1 Behavioral level

The core is to achieve automation of safety operations, that is, all employees in the enterprise are able to consciously follow safety operation procedures (including basic safety behaviors such as safety inspections before work, wearing labor protection supplies according to standards, and completing tasks according to standard procedures).

1.2.2 Cognitive level

The core is to cultivate a risk pre-judgment mindset, where all employees can instinctively identify potential risks, analyze risk triggers, and develop targeted preventive measures before carrying out operations, achieving a shift from "passive response to risks" to "active pre-judgment of risks".

1.2.3 Value hierarchy

The core is to build a consensus on group safety, with all members embracing the concept of "safety first" as a shared value orientation, and creating a group ecology where "everyone is responsible for safety". This means that everyone should not only regulate their own safety behaviors and cognition, but also actively encourage team members to recognize and implement safety production requirements. They should actively supervise others' standardized operations, forming a behavior atmosphere where everyone "mutually protects and supervises" each other. They should actively lead the team to jointly identify risks, share prevention and control experiences, and promote the improvement of risk prediction ability among all members. "Safety first" should be taken as the underlying logic and value orientation for decision-making, promoting the formation of a safety production value system and cultural atmosphere recognized by all members.

2 The cultivation goal and practical path of universal safety habits

2.1 Case reference

During the Spring Festival in 2014, the Chinese Navy's Lai-class submarine encountered a dangerous situation of "underwater cliff" during its long-distance combat readiness training. The submarine rapidly sank, accompanied by a rupture of the main engine room pipeline and seawater flooding. At this critical moment, all officers and soldiers accurately and efficiently completed emergency response, successfully escaped the danger and successfully completed subsequent tasks, creating a miracle of deep-sea self-rescue in the history of submarines worldwide, and receiving high praise from the Party Central Committee and the Central Military Commission. According to public reports, during the crucial 3 minutes of handling the dangerous situation, the commander issued dozens of orders without any errors, and the crew completed more than 500 actions without any mistakes. This case not only demonstrates the fighting style of the officers and soldiers, but also provides important inspiration for enterprise safety production management: automated and standardized safety behaviors of all submarine personnel are the core guarantee for dealing with sudden risks, and the formation of this behavior pattern is rooted in the cultivation of a habit of full collaboration and long-term persistence. Enterprise safety management also needs to establish this habit-forming mechanism of "full synchronization and full linkage among all personnel".

The core objective of enterprise safety management is to promote a shift among all employees from "being told to be safe" to "wanting to be safe, being able to be safe, and being capable of being safe", achieving internalization of safety awareness and externalization of safe behaviors. Cultivating a universal safety habit is not a short-term project, requiring concerted efforts and continuous promotion from all members of the enterprise. Combined with enterprise production practices, the core cultivation path can be summarized into the following four categories.

2.2 Cultivate a safety habit of proactive action among all employees

Taking the initiative refers to individuals or organizations spontaneously and proactively carrying out tasks such as

risk investigation, hidden danger rectification, and skill improvement in safety production work, based on a high sense of responsibility, rather than passively waiting for instructions or shirking responsibility. Its core lies in responsibility and self-motivation. In specific practice, it requires management personnel and frontline employees to actively investigate potential safety hazards on site, formulate and implement rectification measures; proactively compensate for knowledge and skill shortcomings, continuously improve work quality and efficiency; actively plan workflows, strengthen cross-departmental collaboration and complementarity; and proactively review and rectify issues after they occur to prevent similar problems from recurring.

As practitioners and advocates of safety habits, managers play a pivotal role in leading the cultivation of safety habits among all employees by setting examples. By actively caring for employee needs, grasping the dynamics of team work, and coordinating to solve practical problems, managers can effectively foster a shared understanding of team safety and promote the upgrading of proactive actions from work attitudes to behavioral habits. Proactive actions are the lifeblood of enterprise safety production, and cultivating them as a habit among all employees can provide core impetus for the continuous improvement of enterprise safety production.

2.3 Cultivate a safety habit of comprehensive pre-emptive prevention among all employees

The report of the 20th National Congress of the Communist Party of China clearly states: "We must improve the level of public safety governance, adhere to the principle of safety first and prevention foremost, establish a framework for comprehensive safety and emergency response, improve the public safety system, and promote the transformation of public safety governance mode towards pre-event prevention." This statement points out the direction for enterprise safety management, that is, to abandon the passive mode of "post-event remediation" and integrate pre-event prevention into the entire process of daily management for all employees.

To cultivate the habit of pre-emptive prevention among all employees, it is necessary to focus on precise efforts in core areas: first, strengthen the participation of all employees in on-site risk identification, hazard investigation, and rectification, implementing risk classification control and

safety responsibilities for all employees; second, enhance safety awareness and skills training to improve the ability of all employees to handle abnormal situations; third, improve the intrinsic safety level of equipment and facilities, and strengthen safety control in the working environment; fourth, improve emergency response measures to ensure that emergency supplies are fully in place. In practice, it is necessary to aim for "zero errors, zero mistakes, zero defects, zero violations, and zero hazards", establish a normalized prevention mechanism for all employees, and promote the solidification of preventive thinking into behavioral habits, thereby achieving proactive prevention.

2.4 Cultivate safety habits of standardized actions for all employees

Formal enterprises have established standardized safety operation requirements for various types of work, positions, and processes, emphasizing the strict implementation of "prescribed actions" and eliminating the arbitrariness of "optional actions". However, as mentioned earlier, violations are prone to rebound when supervision is absent. Therefore, it is necessary to internalize the standard actions into a conscious habit of all employees and build a long-term safety mechanism. This process requires the coordinated promotion of four key links: "knowledge, belief, action, and persistence"

2.4.1 Clarify and popularize safety standards

On the one hand, we transform complex operating procedures and safety manuals into illustrated, concise, and easy-to-understand learning materials, enhancing the accessibility of standards. On the other hand, we conduct customized training based on different levels and categories, incorporating diversified modes such as situational teaching, lectures given by management personnel, and mentoring, to ensure that employees accurately grasp the standard requirements and that standard knowledge is covered by all employees.

2.4.2 Enhance the value recognition of all employees towards safety standards

Management personnel need to set an example by strictly adhering to safety standards and upholding the authority of the system. They should encourage employees to participate in team self-management and enhance their sense of ownership through activities such as hosting pre-shift meetings. By

utilizing methods like accident case warnings, data analysis, and simulation experiences, all employees can be made to deeply understand the dangers of violating regulations. A positive incentive mechanism should be established, including recognizing "safety role models", implementing a safety point system, and setting up a "safety suggestions from all employees" channel, to guide everyone to actively acknowledge and implement the standards. Simultaneously, through daily inspections and communication, work deficiencies can be promptly identified, employee ideological trends can be grasped, cognitive biases can be corrected, and employee safety awareness can be strengthened.

2.4.3 Strengthen behavioral constraints and correction for all employees

Regularly conduct theoretical written exams and practical assessments, incorporate the assessment results into daily evaluations, implement targeted supplementary training for unqualified personnel, and promote the formation of muscle memory through standard actions; strictly implement comprehensive violation assessments for all employees, maintain the seriousness of the system, and prevent the "broken window effect"; optimize the design of tools and equipment, achieve "convenient correct operation and infeasible incorrect operation" through inherent safety improvement, while maintaining a clean and orderly work environment to eliminate physical safety hazards.

2.4.4 Establish a long-term reinforcement mechanism for all employees

We will continue to adhere to full participation (involving both management personnel and frontline employees), standardize the conduct of pre-shift meetings, and strictly implement the process of "one inspection, two announcements, three studies, four evaluations, five deployments, six sharing, seven summaries, eight oaths, and nine endings" to ensure that all employees enter the work state with full safety awareness. We will strengthen safety control throughout the entire operation process, ensuring that safety measures are fully implemented through measures such as operation approval, on-site inspection, and random video surveillance. We will also enhance the construction of safety culture, utilizing blackboards, bulletin boards, WeChat groups, team safety activities, and other carriers to create a strong and

comprehensive safety atmosphere, promoting the rooting of standard habits among all employees through cultural edification.

The essence of cultivating standardized operational habits among all employees lies in the sublimation of safety protocols from "external constraints" to "internal competencies", representing a continuous process of advancement. Only when employees can consciously adhere to standardized actions even in the absence of supervision, and when management personnel consistently set examples and strictly enforce management standards, can the solid foundation of enterprise safety production be truly established.

2.5 Cultivate safety habits of closed-loop management for all employees

The core essence of comprehensive closed-loop management lies in the principle of "accountability for everything, thoroughness in every task, and feedback for every matter", which ensures that all safety work forms a complete closed loop from initiation to completion, eliminating half-hearted efforts and abandonment halfway. In enterprise safety management, it is necessary to embed the closed-loop concept of "doing it right the first time, doing it right every time, and leaving no loose ends" into the consciousness of all employees, from individuals to teams, and from specific tasks to overall management, promoting the "breaking through the last mile" of all work.

In practice, it is necessary to take "continuous improvement" as the core principle and advocate a "iterative optimization" work attitude, that is, through longitudinal comparison (today is better than yesterday, next year is better than this year) and horizontal benchmarking, to promote continuous quality improvement and efficiency enhancement

in safety work. The cultivation of a closed-loop management habit among all employees can effectively enhance the systematicness and integrity of safety work, reduce management loopholes, and provide full-process guarantee for safe production.

3 Conclusion

Safety is not a formalized slogan or manual, but a deep-seated cultivation and a habit ingrained in our blood. Making safety a habit for all employees is a profound transformation from passive constraints to active internalization in safety management. Its ultimate goal is to build a safe production ecosystem where "everyone talks about safety, everything is done for safety, safety is always on mind, and safety is required everywhere".

The cultivation of safety habits among all employees is a sublimation from individual behavior to group behavior, marking a leap from "individual safety" to "safety for all". All personnel in the enterprise should regard every standardized operation, every risk investigation, and the implementation of every safety measure as important practices for habit cultivation. Allowing safety habits to take shape and solidify through continuous accumulation will ultimately enable the enterprise to achieve not only zero-accident performance but also reliable life protection and civilized production methods. Only by making safety an instinctive habit that all employees do not need to consciously consider can we build a truly comprehensive and seamless solid defense line for safe production, facilitating the innovative development and leapfrog progress of the enterprise, and achieving common safe development for both the enterprise and its employees.